

Common Name: **DICHLOROFLUOROMETHANE**

Synonyms: HCFC-21; CFC 21; Freon® 21; Halon® 112; Genetron® 21

CAS No: 75-43-4

Molecular Formula: CHCl₂F

RTK Substance No: 3109

Description: Colorless gas, or a compressed liquefied gas, with a sweet *Ether*-like odor

HAZARD DATA

Hazard Rating	Firefighting	Reactivity
<p>1 - Health</p> <p>0 - Fire</p> <p>0 - Reactivity</p> <p>DOT#: UN 1029</p> <p>ERG Guide #: 126</p> <p>Hazard Class: 2.2 (Nonflammable)</p>	<p>Extinguish fire using an agent suitable for type of surrounding fire. Dichlorofluoromethane itself does not burn.</p> <p>POISONOUS GASES ARE PRODUCED IN FIRE, including <i>Hydrogen Fluoride, Carbonyl Fluoride, Hydrogen Chloride, and Phosgene.</i></p> <p>CONTAINERS MAY EXPLODE IN FIRE.</p> <p>Use water spray to keep fire-exposed containers cool.</p>	<p>Dichlorofluoromethane reacts with STRONG ACIDS (such as HYDROCHLORIC, SULFURIC and NITRIC) and ACID FUMES to produce toxic and corrosive <i>Hydrogen Fluoride and Hydrogen Chloride gases.</i></p> <p>Dichlorofluoromethane is not compatible with POWDERED ALUMINUM; MAGNESIUM; ZINC; SODIUM; POTASSIUM; CALCIUM; and OXIDIZING AGENTS (such as PERCHLORATES, PEROXIDES, PERMANGANATES, CHLORATES, NITRATES, CHLORINE, BROMINE and FLUORINE).</p>

SPILL/LEAKS

Isolation Distance:

Spill: 100 meters (330 feet)

Fire: 800 meters (1/2 mile)

Stop flow of gas. If source of leak is a cylinder and the leak cannot be stopped in place, remove the leaking cylinder to a safe place in the open air, and repair leak or allow cylinder to empty.

Turn leaking cylinder with leak up to prevent escape of gas in the liquid state.

DO NOT DIRECT water jet on liquid.

DO NOT wash into sewer.

Dichlorofluoromethane is considered to be an *Ozone* depleting substance.

PHYSICAL PROPERTIES

Odor Threshold:	<i>Ether</i> -like
Flash Point:	Nonflammable gas
Auto Ignition Temp:	972°F (522°C)
Vapor Density:	3.8 (air = 1)
Vapor Pressure:	1,193 mm Hg at 70°F (21°C)
Specific Gravity:	1.48 (water = 1)
Water Solubility:	Slightly soluble
Boiling Point:	48°F (8.9°C)
Freezing Point:	-211°F (-135°C)
Ionization Potential:	12.39 eV
Molecular Weight:	102.92

EXPOSURE LIMITS

Dichlorofluoromethane is an asphyxiant at high concentrations.

NIOSH: 10 ppm, 10-hr TWA

ACGIH: 10 ppm, 8-hr TWA

IDLH: 5,000 ppm

The Protective Action Criteria values are:

PAC-1 = 30 ppm PAC-2 = 100 ppm PAC-3 = 5,000 ppm

PROTECTIVE EQUIPMENT

Gloves:	Insulated Neoprene (<1-hr breakthrough) and Barrier® (>8-hr breakthrough)
Coveralls:	Tychem® Responder® (>8-hr breakthrough)
Respirator:	>30 ppm - SCBA

HEALTH EFFECTS

Eyes:	Irritation
Skin:	Irritation. Contact with liquid causes frostbite
Inhalation:	Nose, throat and lung irritation with coughing, wheezing and/or shortness of breath Headache, dizziness, lightheadedness, confusion, tremors, unconsciousness and death

FIRST AID AND DECONTAMINATION

Remove the person from exposure.

Flush eyes with large amounts of water for at least 15 minutes. Remove contact lenses if worn. Seek medical attention.

Quickly remove contaminated clothing and wash contaminated skin with large amounts of soap and water.

Immerse affected part in warm water. Seek medical attention.

Begin artificial respiration if breathing has stopped and CPR if necessary.

Transfer promptly to a medical facility.